

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**  
**Re: Appeal to the Board of Patent Appeals and Interferences**

Appellants:	Day et al.	)	Examiner:	Jeffrey C. Mullis
		)		
Serial Number:	10/749,681	)	Group Art Unit:	1796
		)		
Filed:	December 31, 2003	)	Customer Number:	22827
		)		
Confirmation No:	2161	)	Deposit Account:	04-1403
		)		
Title:	Improved Thermal Stabilization	)	Attorney Docket No:	KCX-1226 (19589)
	and Processing Behavior of	)		
	Block Copolymer Compositions	)		
	by Blending Applications	)		
	Thereof, and Methods of Making	)		
	Same	)		

1. ☐ **NOTICE OF APPEAL:** Pursuant to 37 CFR 41.31, Applicant hereby appeals to the Board of Appeals and interferences from the last decision of the Examiner.
2. ☐ **PRE-APPEAL BRIEF REQUEST FOR REVIEW:** Applicant requests review of the final rejection in the above-identified application. No amendments are being filed with this request. This request is being filed with a Notice of Appeal. The review is requested for the reason(s) stated on the attached sheet(s) [No more than five (5) pages may be provided.]
3. ☒ **BRIEF** on appeal in this application pursuant to 37 CFR 41.37 is transmitted herewith (1 copy).
4. ☐ An **ORAL HEARING** is respectfully requested under 37 CFR 41.47 (due within two months after Examiner's Answer).
5. ☐ Reply Brief under 37 CFR 41.41(b) is transmitted herewith (1 copy).
6. ☐ "Small entity" verified statement filed: [ ] herewith [ ] previously.

7. **FEE CALCULATION:**

	<b>Fees</b>
If box 1 above is X'd enter \$ 540.00	\$ <u>0.00</u>
If box 2 above is X'd enter \$ 0.00 (no fee)	\$ <u>0.00</u>
If box 3 above is X'd enter \$ 540.00	\$ <u>540.00</u>
If box 4 above is X'd enter \$ 1,080.00	\$ <u>0.00</u>
If box 5 above is X-d enter \$ 0.00 (no fee)	\$ <u>0.00</u>

**PETITION** is hereby made to extend the original due date of June 2, 2009, hereby made for an extension to cover the date this response is filed for which the requisite fee is enclosed (1 month \$130; 2 months \$490; 3 months \$1,110; 4 months \$1,730, 5 months \$2,350

\$ 0.00

**SUBTOTAL:** \$ 540.00

Less any previous extension fee paid since above original due date. - \$ 0.00

Less any previous fee paid for prior Notice of Appeal since Board did

not render a decision on the merits. MPEP § 1204.01 - \$ 0.00

Less any previous fee paid for submitting Brief on prior Appeal since  
Board did not render a decision on the merits. MPEP § 1204.01 - \$ 0.00

**SUBTOTAL:** \$ 540.00

If "small entity" verified statement filed ☐ previously,  
☐ herewith, enter one-half (½) of subtotal and subtract - \$ 0.00

**TOTAL FEE ENCLOSED:** \$ 540.00

- ☐ Fee enclosed.
- ☐ Charge fee to our Deposit Account/Order Nos. in the heading hereof (for which purpose one additional copy of this sheet is attached)
- ☒ Charge to credit card (attach Credit Card Payment Form – PTO 2038)
- ☐ Fee NOT required since paid in prior appeal in which the Board of Appeals did not render a decision on the merits.

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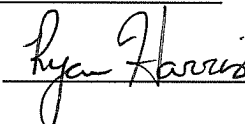
The Commissioner is hereby authorized to charge any fee specifically authorized hereafter, or any fees in addition to the fee(s) filed, or asserted to be filed, or which should have been filed herewith or concerning any paper filed hereafter, and which may be required under Rules 16-18 (deficiency only) now or hereafter relative to this application and the resulting official document under Rule 20, or credit any overpayment, to our Account No. shown in the heading hereof. This statement does not authorize charge of the issue fee in this case.

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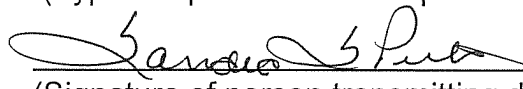
Date: May 29, 2009

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I hereby certify that this correspondence and all attachments and any fee(s) are being electronically transmitted via the internet to the U.S. Patent and Trademark Office using the Electronic Patent Filing System on May 29, 2009.

Sandra S. Perkins

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(Signature of person transmitting documents)

**PATENT**  
**ATTORNEY DOCKET NO: KCX-1226 (19589)**

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

In re Application: Day et al.	)	Examiner: Jeffrey C. Mullis
	)	
Serial No: 10/749,681	)	Group Art Unit: 1796
	)	
Filed: December 31, 2003	)	Confirmation No: 2161
	)	
Title: Improved Thermal Stabilization	)	Deposit Account No: 04-1403
and Processing Behavior of Block	)	
Copolymer Compositions by	)	Customer No: 22827
Blending Applications Thereof,	)	
and Methods of Making Same	)	

Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

**BRIEF ON APPEAL**

Appellants submit the following brief on appeal in accordance with 37 C.F.R. §  
41.37:

**1. REAL PARTY IN INTEREST**

The real party in interest in this matter is the assignee of record, Kimberly-Clark  
Worldwide, Inc.

**2. RELATED APPEALS AND INTERFERENCES**

There are no other appeals or interferences known to the Appellants or the  
Appellants' legal representative which will directly affect or be directly affected by or  
have a bearing on the Board's decision in the pending appeal.\

**3. STATUS OF CLAIMS**

Currently, claims 33, 37-40, and 42-53 remain pending in the present application  
including independent claim 33. Claims 1-32, 34-36 and 41 were previously cancelled

from the present application. All pending claims are attached hereto in the Claims Appendix.

In the Final Office Action of December 2, 2008, claims 33, 37-40, and 42-53 were finally rejected under 35 U.S.C. § 103(a). Additionally, claims 33, 37-40, and 42-53 were finally rejected under 35 U.S.C. § 112, first paragraph.

The rejections of claims 33, 37-40, and 42-53 are hereby appealed.

#### **4. STATUS OF AMENDMENTS**

Appellants filed an Amendment after Final on February 11, 2009 to amend dependent claim 42. The Amendment was not entered.

#### **5. SUMMARY OF CLAIMED SUBJECT MATTER**

In general, the present application is directed to improved thermal stabilization and processing behavior of block copolymer compositions by blending. See, e.g., Title. For example, independent claim 33 is directed to a nonwoven composite. See, e.g., pg. 6, lines 14-15; pg. 9, lines 29-32. The composite comprises an extruded film layer adhered to a non-woven material. See, e.g., pg. 5, line 10–pg. 6, line 17; pg. 23, lines 12-25. The film layer comprises a blended composition. See, e.g., pg. 4, lines 7-14. The composition comprises an unsaturated styrene-isoprene-styrene block copolymer and a compatibilizer including a styrene-butadiene-styrene block copolymer. See, e.g., pg. 4, lines 25-27. The unsaturated styrene-isoprene-styrene block copolymer has a melt flow rate of less than 20 g/10 min. See, e.g., pg. 18, line 25–pg. 19, line 3. The compatibilizer has a melt flow rate of about 20 g/10 min. or more. See, e.g., pg. 4, lines 17-18. The styrene-isoprene-styrene and styrene-butadiene-styrene block copolymers

are present in the blended composition in a ratio of from about 1.5:1 to about 2.5:1.

See, e.g., pg. 19, lines 9-13.

Claim 37 adds the limitation that the compatibilizer has a melt flow rate of about 30 g/10 min. or more. See, e.g., pg. 4, lines 18-20.

Claim 38 adds the limitation that the compatibilizer has a melt flow rate of about 40 g/10 min. or more. See, e.g., pg. 4, lines 20-22.

Claim 42 adds the limitation that the styrene-isoprene-styrene and styrene-butadiene-styrene are present in the blended composition in a ratio of about 2:1. See, e.g., pg. 4, lines 27-30.

Claim 46 adds the limitation that the compatibilizer has a styrene content by weight of at least forty percent. See, e.g., pg. 5, lines 8-9.

Claim 52 adds the limitation that the blended composition further comprises a polyolefinic polymer wherein the unsaturated styrene-isoprene-styrene block copolymer and said compatibilizer are present with said polyolefinic polymer in a ratio from about 20:80 to about 40:60 unsaturated styrene-isoprene-styrene block copolymer and compatibilizer to polyolefinic polymer. See, e.g., pg. 4, lines 30-34.

Claim 53 adds the limitation that the blended composition further comprises a polyolefinic polymer wherein the unsaturated styrene-isoprene-styrene block copolymer and said compatibilizer are present with said polyolefinic polymer in a ratio from about 95:5 to about 80:20 unsaturated styrene-isoprene-styrene block copolymer and compatibilizer to polyolefinic polymer. See, e.g., pg. 4, line 30–pg. 5, line 1.

## **6. GROUND S OF REJECTION TO BE REVIEWED ON APPEAL**

I. Claims 33, 37-40, and 42-53 stand rejected under 35 U.S.C. § 112, first paragraph as failing to comply with the written description requirement.

II. Claims 33, 37-40, and 43-53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 6,531,544 (hereinafter "Vaughan") in view of U.S. Patent No. 4,965,122 (hereinafter "Morman") or U.S. Patent No. 6,648,869 (hereinafter "Gillies") or U.S. Patent No. 5,665,186 (hereinafter "Datta"), wherein the secondary reference is relied upon for claims 47-49.<sup>1</sup>

III. Claims 33, 37-40, 42-46, and 50-53 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent Application No. 2003/0125442 (hereinafter "Maris") optionally in view of U.S. Patent No. 5,681,894 (hereinafter "Williams").

## **7. ARGUMENT**

Appellants respectfully submit that the presently pending claims are patentable over the cited references and rejections.

### **I. Claims 33, 37-40, and 42-53 comply with the written description requirement under 35 U.S.C. § 112.**

To satisfy the written description requirement, a patent specification must describe an invention in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed subject matter," to ensure, e.g., that the inventor had possession of the claimed subject matter as of the desired priority date. Lockwood v. American Airlines, Inc., 41 USPQ2d 1961 (Fed. Cir. 1997); In re Gostelli, 10 USPQ2d

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<sup>1</sup> The Final Office Action included a second recitation of Morman as an optional secondary reference. Appellants believe this to be a typographical error as citing Morman a second time is redundant.

1614 (Fed. Cir. 1989). Thus, the specification need only convey to those skilled in the art with reasonable clarity that Applicants possessed the claimed invention.

Appellants note that the Examiner confirmed that he intended this rejection to be under the first paragraph of § 112 – “the pertinent issue [is] new matter, not clarity.” Final Office Action, pg. 5, lines 17-18. Specifically, the Examiner states that “the specification as filed does not disclose the end point of “about” 2.5:1 as recited in the last line of claim 33.” Final Office Action, pg. 2, lines 5-7.

As a preliminary matter, Appellants note that the subject matter is described in the specification. At pg. 19, lines 9-10, the specification discloses that “it has been found that when SIS and SBS polymers are blended in a ratio **range between about** 1.5:1 and 2.5:1 . . .” By comparison, claim 33 requires SIS and SBS present in the blended composition “in a ratio of from about 1.5:1 to about 2.5:1.” Thus, the specification discloses a range modified by the term of degree “about” while claim 33 discloses each endpoint as modified by the term of degree “about.” Appellants respectfully submit that the claimed limitation of “a ratio of from about 1.5:1 to about 2.5:1” is functionally equivalent to the disclosure of “a ratio range between about 1.5:1 and 2.5:1.” Thus, first, Appellants respectfully submit that the endpoint of “about 2.5:1” is explicitly disclosed.

Second, even if “about 2.5:1” is not explicitly disclosed, Appellants respectfully submit that the specification clearly indicates that the inventors were in possession of “about 2.5:1” at the time of filing. For instance, the Examples teach testing on polymer blends in 1:1, 2:1, 3:1, and 4:1 ratios (See also Fig. 3 illustrating the viscosity slope for blends of 1:1, 2:1, and 3:1 ratios). Pg. 25, lines 6+. Furthermore, the specification

discloses ratios between about 1.8:1 and 2.3:1 and about 2:1. Pg. 19, lines 16-17.

Thus, clearly Applicants were in possession of ratios other than exactly 2.5:1.

Finally, even if the endpoint of “about 2.5:1” is not explicitly disclosed and other ratios disclosed in the specification do not confirm that Appellants were in possession of “about 2.5:1” at the time of filing, Appellants respectfully submit that the specification conveys with reasonable clarity to those skilled in the art that Appellants possessed the endpoint of “about 2.5:1” at the time of filing. One skilled in the art appreciates that, in terms of a blended ratio, “about 2.5:1” is clear, but flexible. See Ex parte Eastwood, 163 U.S.P.Q. 316 (Bd. App. 1968).

**II. Claims 33, 37-40, and 43-53 are patentable over Vaughan in view of Morman or Gillies or Datta.**

Vaughan is directed to a hot melt adhesive for bonding lotion coated substrates. Vaughan discloses that SIS and SBS block copolymers may be utilized in the adhesive.<sup>2</sup>

**A. Independent claim 33 is patentable over Vaughan.**

Independent claim 33 recites:

A nonwoven composite, comprising:

a non-woven material;

**an extruded film layer adhered to said non-woven material,**  
said film layer prepared from a blended composition comprising

a) an unsaturated styrene-isoprene-styrene block copolymer having  
a melt flow rate of less than 20 g/10 min.,

b) **a compatibilizer including a styrene-butadiene-styrene block copolymer, wherein said compatibilizer has a melt flow rate of about 20 g/10 min. or more; and**

**wherein said styrene-isoprene-styrene and styrene-butadiene-styrene block copolymers are present in said blended composition in a ratio of from about 1.5:1 to about 2.5:1.**

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<sup>2</sup> Morman, Gillies, and Datta will not be described here. The Examiner utilizes the secondary references for claims 47-49, which are not separately argued here.



1. **Vaughan fails to teach or suggest an SBS block copolymer with a melt flow rate of about 20 g/10 min. or more.**

To establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references when combined must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As noted above, independent claim 33 contains the limitation that the film layer includes a compatibilizer including an SBS block copolymer, wherein the compatibilizer has a melt flow rate of about 20 g/10 min. or more. Vaughan fails to teach or fairly suggest this limitation.

The Final Office Action asserts that Vaughan discloses a first block copolymer with an MFR of less than 20 g/10 min. *and a second one greater than 30 g/10 min.* Appellants respectfully disagree. Vaughan does **not** disclose the use of an SBS block copolymer having an MFR of greater than 20 g/10 min. as required by independent claim 33. The Office Action points to the following excerpt of Vaughan:

In the case of block copolymer having a styrene content of greater than 40 wt-% the melt flow rate is typically relatively high, about 30 MFR or greater. **Preferably, the second block copolymer has a styrene content of about 30 wt-% or lower and a melt flow rate of less than 10 g/10 min. More preferably the second block copolymer is sufficiently high in molecular weight such that the solution viscosity, rather than the melt flow rate is reported.** In a preferred embodiment the solution viscosity of the second block copolymer is greater than 5,000 cps for a 25 wt-% solution of polymer and toluene at 20.degree. C., preferably greater than about 10,000 cps, more preferably greater than about 15,000, and most preferably about 20,000 cps or greater. Col. 4, lines 22-35 (emphasis added).

Appellants respectfully submit that Vaughan has not disclosed the use of an SBS block copolymer having a melt flow rate of greater than 20 g/10 min. Vaughan has simply disclosed that when the styrene content is greater than 40 wt-%, the melt flow rate is about 30 g/10 min. or greater. This property is **not** desirable for the second block

copolymer of Vaughan. As such, Vaughan discloses that the second block copolymer has a styrene content of 30 wt-% or less and an MFR of less than 10 g/10 min.

Furthermore, even more preferably, the block copolymer has such a low MFR that the solution viscosity is reported rather than the MFR. Thus, Vaughan **teaches away** from an SBS copolymer having a melt flow rate of greater than 20 g/10 min. as required by independent claim 33.

The Final Office Action responds to this argument stating:

it is not clear why Vaughn would teach the use of MFR greater than 30 for the second copolymer for styrenic contents higher than 40% if Vaughan meant that styrenic copolymers with more than 40% styrene should not be used at all. Even for the sake of argument that Vaughan is disclosing a less preferred embodiment for use of block copolymers with MFR's greater than 20 . . .

Applicants submit that the use of copolymers with more than 40% styrene is **not** a lesser preferred embodiment, but it is expressly **taught against**. The excerpt in question is quoted above. One skilled in the art would understand that Vaughan simply discloses that above 40% styrene content, (**undesirable**) MFR's of 30 or more are obtained. Thus, Vaughan utilizes block copolymers with a styrene content of **less than** 30 wt.% in order to achieve an MFR of less than 10 g/10 min. Furthermore, Vaughan reinforces this notion of expressly using copolymers containing 30 wt.% or less styrene by indicating that it is most preferred that the MFR be so low that it is reported a viscosity rather than MFR. Col. 4, lines 27-35.

**2. Vaughan fails to teach an extruded film layer prepared from the claimed blended composition.**

To establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references when combined must teach or suggest all the claim limitations.

In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As noted above, independent claim 33 contains the limitation that the extruded film layer is adhered to the non-woven material. Vaughan fails to teach or fairly suggest this limitation.

Vaughan is directed to:

hot melt adhesive compositions for the assembly of disposable absorbent articles such as disposable diapers wherein the adhesive is in contact with an oil-based skin care ingredient, and the resulting disposable absorbent article. The adhesive is particularly useful for adhesively bonding elastic to nonwoven, and exhibits good stress resistance in the presence of lotion. Col. 1, lines 7-14.

Thus, the composition of Vaughan that the Examiner opines obviates Appellants' claimed blended composition of SIS and compatibilizer is an **adhesive** that is utilized to bond elastics and nonwovens. In stark contrast, Appellants disclose and claim an **extruded film** adhered a nonwoven layer forming a composite wherein the **extruded film** is prepared from a blended composition comprising an unsaturated SIS having a melt flow rate of less than 20 g/10 min and a compatibilizer including an SBS copolymer with a melt flow rate of about 20 g/10 min. or more, wherein the SIS and SBS are present in a ratio from about 1.5:1 to about 2.5:1. Vaughan fails to teach or suggest such a limitation.

**3. Vaughan fails to teach SIS and SBS block copolymer blended in a ratio of from about 1.5:1 to about 2.5:1.**

To establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references when combined must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As noted above, independent claim 33 contains the limitation that the SIS and SBS copolymers are

blended in a ratio of from about 1.5:1 to about 2.5:1. Vaughan fails to teach or fairly suggest this limitation.

In attempting to obviate this limitation, the Office Action points to Example 2 and states that Example 2 discloses “high MFR block copolymer to low MFR block copolymer of 1:1.5.” Appellants note that claim 33 requires **SIS and SBS block copolymers present is the blended composition from about 1.5:1 to about 2.5:1**. Example 2 fails to disclose the use of any SBS. Indeed, the only Example that discloses SBS is Example 1 in which the MFR of SBS is so low that the viscosity is reported rather than the MFR (i.e., MFR is less than 0.5 g/10 min.).

The Examiner attempts to respond to this argument in the Advisory Action dated February 27, 2009 stating “Example 2 fails to disclose an SBS copolymer but column 4, lines 20-25 of the reference discloses the interchangeability of SBS and SIS.” First, it is unclear as to which polymer component is supposedly the “first and second components” as each component requires a styrene content of less than 30% as noted above. Second, Example 2 illustrates the reasoning for the requirement that the styrene content is less than 30% as the adhesion properties of Example 2 were “not as good” as Example 1. Col. 9, line 11. As such, while the **SIS** component Vector® 4411 disclosed in Example 2 has a styrene content of 44%, there is no teaching or suggestion (indeed, as noted above the remainder of the specification teaches away) to substitute the Vector® 4411 component with an **SBS** with the same styrene content that also yields an MFR of 40 g/10 min. in order to yield Applicants’ claimed invention. Plainly, the only reasoning to modify the undesired composition of Example 2 in the manner suggested in the Final Office Action results from using Appellant’s disclosure as a blueprint to

reconstruct the claimed invention out of isolated teachings in the prior art, which is improper under 35 U.S.C. § 103. Accordingly, it is respectfully submitted that any such modification of the cited references relies on the impermissible use of hindsight, which cannot be successfully used to support a *prima facie* case of obviousness.

Appellants urge that the claimed ratio of from about 1.5:1 to about 2.5:1 of SIS and SBS block copolymers in the blended composition is not merely an obvious design choice. As noted throughout the specification, while unsaturated block polymers have been frequently used in adhesive-type applications, the use of such polymers has presented significant manufacturing challenges in extrusion of film and filaments. The stability of the unsaturated block copolymers over the extended period of time required to extrude film and filaments is not predictable and often results in severe manufacturing disturbances. In Applicants' claimed ratios of SIS to SBS, a relatively flat viscosity line<sup>3</sup> was discovered, which is indicative of thermal stability in the extrusion process. The inventors discovered that the blended SIS and SBS polymer resins demonstrated a relatively constant viscosity, and exhibited an increased ability to withstand degradation in the extrusion process as the ratio of blended styrenic isoprene to styrenic butadiene approached the claimed ratio. Incidentally, Appellants respectfully note that the Examiner agreed with Applicants' assertion in the Advisory Action mailed March 13, 2008 stating that "the claims of record do not recite any particular ratio of 'a' to 'b' with the exception of claim 42 which is now allowable over Vaughan."

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<sup>3</sup> See, for example, Fig. 3.

**B. Dependent claim 37 is patentable over Vaughan.**

Claim 37 adds the limitation that the SBS has a melt flow rate of about 30 g/10 min or more. This limitation further defines over Vaughan for the reasoning noted above with respect to independent claim 33 and the limitation of a melt flow rate of about 20 g/10 min or more.

**C. Dependent claim 38 is patentable over Vaughan.**

Claim 38 adds the limitation that the SBS has a melt flow rate of about 40 g/10 min or more. This limitation further defines over Vaughan for the reasoning noted above with respect to independent claim 33 and the limitation of a melt flow rate of about 20 g/10 min or more.

**D. Dependent claim 42 is patentable over Vaughan.<sup>4</sup>**

Claim 42 adds the limitation that the SIS and SBS are present in the blended composition in a ratio of about 2:1. In rejecting this claim, the Examiner states this limitation would be obvious "absent any showing of surprising or unexpected results." As noted throughout the specification, while unsaturated block polymers have been frequently used in adhesive-type applications, the use of such polymers has presented significant manufacturing challenges in extrusion of film and filaments. The stability of the unsaturated block copolymers over the extended period of time required to extrude film and filaments is not predictable and often results in severe manufacturing disturbances. In Applicants' claimed ratios of 2:1, a relatively flat viscosity line<sup>5</sup> was discovered, which is indicative of thermal stability in the extrusion process. The

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<sup>4</sup> Dependent claim 42 was not included in the rejection heading. However, the limitation was explicitly addressed at pg. 3, lines 18-21 of the Final Office Action.

<sup>5</sup> See, for example, Fig. 3.

inventors discovered that the blended SIS and SBS polymer resins demonstrated a relatively constant viscosity, and exhibited an increased ability to withstand degradation in the extrusion process as the ratio of blended styrenic isoprene to styrenic butadiene approached the claimed ratio. Thus, a ratio of about 2:1 is not merely an obvious design choice and the only reasoning to modify Vaughan in the manner suggested in the Final Office Action results from using Appellant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art, which is improper under 35 U.S.C. § 103.

**E. Dependent claim 46 is patentable over Vaughan.**

Claim 46 adds the limitation that the compatibilizer has a styrene content by weight of at least 40%. Appellants respectfully submit that Vaughan teaches away from such a limitation as noted above with respect to independent claim 33.

**F. Dependent claims 52 and 53 are patentable over Vaughan.**

Claim 52 adds the limitation that the blended composition further comprises a polyolefinic polymer and the ratio of SIS and compatibilizer to polyolefinic polymer is from about 20:80 to about 40:60. Claim 53 adds the limitation that the blended composition further comprises a polyolefinic polymer and the ratio of SIS and compatibilizer to polyolefinic polymer is from about 95:5 to about 80:20. Vaughan fails to disclose or fairly suggest such limitations.

**III. Claims 33, 37-40, and 42-46 and 50-53 are patentable over Maris optionally in view of Williams.**

Maris is directed to a free flowing powder. Williams is directed to a soft, flexible tampon applicator.

**A. Independent claim 33 is patentable over Maris in view of Williams.**

Independent claim 33 recites:

**A nonwoven composite, comprising:**

**a non-woven material;**

**an extruded film layer adhered to said non-woven material,**

said film layer prepared from a blended composition comprising

a) an unsaturated styrene-isoprene-styrene block copolymer having a melt flow rate of less than 20 g/10 min.,

b) **a compatibilizer including a styrene-butadiene-styrene block copolymer, wherein said compatibilizer has a melt flow rate of about 20 g/10 min. or more;** and

wherein said styrene-isoprene-styrene and styrene-butadiene-styrene block copolymers are present in said blended composition in a ratio of from about 1.5:1 to about 2.5:1.

**1. Maris fails to teach or suggest an SBS block copolymer with a melt flow rate of about 20 g/10 min. or more.**

To establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references when combined must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As noted above, independent claim 33 contains the limitation that the SBS block copolymer comprises a melt flow rate of about 20 g/10 min. or more. Maris fails to teach or fairly suggest this limitation.

The Office Action indicates that Maris discloses a block copolymer "a1" having a MFR of less than 20. The Office Action also indicates that Maris et al. discloses a second styrenic block copolymer "a2." Regarding "a2", the Office Action states:

Note paragraph 23 (of Maris, et al.) where it is disclosed that the "a" block copolymers may have a molecular weight as low as 25,000 and since melt flow rate varies inversely with molecular weight and since 25,000 is a fairly low molecular weight applicants MFR of greater than about 20 would reasonably appear to be inherent.



Furthermore, the Office Action points to Williams et al. for evidence that an SBS copolymer with a molecular weight of 58,000 has a melt flow rate of 23 g/10 min.

As a preliminary matter, the Examiner has not evidenced the proper requirements to establish inherency. To establish inherency, the evidence must not “reasonably appear to be inherent,” but must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. The mere fact that a certain thing *may* occur or be present in the reference is not sufficient. In re Robertson, 169 F.3d 743, 745, 49 U.S.P.Q.2d 1949, 1950-51 (Fed. Cir. 1999) (citations omitted); In re Rijckaert, 9 F.3d 1531, 1534, 28 U.S.P.Q.2d 1955, 1957 (Fed. Cir. 1993). Simply stated, inherency may not be established by probabilities or possibilities.

Furthermore, Appellants note that the molecular weight disclosure of Maris is for **the mixture** of both a1 and a2 components. First, as paragraph 0019 of Maris discloses, the ratio of a1 to a2 may be 5:95 to 95:5. Thus, with such a broad range of the mixture and the extended range of the MW (i.e., 25,000 to exceeding 1,000,000), clearly, there can be no appropriate correlation to be drawn in order to satisfy “inherency” under the United States Patent Laws.

Additionally, Appellants note there can be no direct correlation between molecular weight an MFR as various other properties such as, for instance, whether the copolymer is linear, radial, star-shaped, etc., the respective amounts of each block in the tri-block copolymer, the degree of crosslinking present, etc. affect the “correlation.”

In response to these arguments, the Final Office Action indicates:

the issue with regard to obviousness relying on Maris alone is whether a SBS or SIS block copolymer as disclosed by Maris with a molecular

weight of 25,000 could possibly have a MFR of 20 or less seems unlikely based on MFR and molecular weight data reported by the prior art.

The molecular weight data “reported by the prior art” referenced appears to be the lone portion of Williams that discloses an SBS copolymer with a MW of 58,000 and an MFR of 23 g/10 min. Such a disclosure by Williams et al. is clearly not dispositive and evidence to sustain a 103 rejection based on inherency. Furthermore, Applicants again note that the 25,000 molecular weight reported by Maris is of a mixture of a1 and a2. As disclosed in paragraph 19, a1 may be present in an amount of 95%. Thus, hypothetically, a1 could be a copolymer with an MFR of 19<sup>6</sup>, a MW of 25,000, and be present in an amount of 95% and a2 could be one of the disclosed SBS copolymers for a2 such as Kraton D-1101, Kraton D-1102, or Kraton D-4271 (all of which Applicants have previously submitted evidence that the MFR is **less than 20**) and still meet the molecular weight minimum.

Furthermore, the 25,000 MW minimum of Maris could simply be met utilizing a polymer that is **not** SBS (as required by Applicants). Maris discloses any number of polymers may be utilized as a2: “the further block copolymer (a2) may in principle be any block copolymer comprising at least one poly(vinylaromatic monomer) block and at least one hydrogenated or unhydrogenated poly(conjugated diene) block.” ¶ [0020]. Thus, the disclosure by Maris of an (a) mixture having a molecular weight as low as 25,000 could encompass any (a2) copolymers, not just the SBS copolymers required by Applicants independent claim 33. Furthermore, Appellants have provided evidence in the record that each SBS copolymer disclosed as suitable in Maris comprise melt flow rates no where near Applicants’ claimed minimum of 20 g/10 min.

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<sup>6</sup> Applicants note that the Examiner has equated “a1” with Applicants’ claimed SIS (**not** SBS).

Appellants assert the above possibilities merely to point out that Maris does not **necessarily** disclose the use of an SBS having an MFR greater than 20. That, combined with the evidence Appellants have submitted for the record illustrating that every “suitable” SBS disclosed by Maris for use as component a2 has an MFR of **less than 20**, clearly illustrates that the Examiner’s inherency arguments are based on mere **possibilities**. Appellants again note that the Examiner’s assertions fail to meet the § 103 requirements for inherency. “To establish inherency, the evidence must make clear that the missing descriptive matter is *necessarily present* in the thing described in the reference, and that it would be so recognized by persons of ordinary skill. The mere fact that a certain thing *may* occur or be present in the reference is not sufficient.” *In re Robertson*, 169 F.3d 743, 745 (Fed. Cir. 1999) (citations omitted); See also, MPEP § 2163.07(a).

**2. Maris fails to teach or suggest a nonwoven composite comprising a non-woven material and an extruded film layer.**

To establish a *prima facie* case of obviousness, in addition to other requirements, the prior art references when combined must teach or suggest all the claim limitations. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438 (Fed. Cir. 1991). As noted above, independent claim 33 contains the limitation of a nonwoven composite comprising a nonwoven material and an extruded film layer. Maris fails to teach or fairly suggest this limitation.

Maris is directed to “a free flowing powder composition.” ¶ [0001]. Particularly, the powder can be used as dashboard skins of instrument panels, console boxes, door trims, other interior trims in automobiles, and other applications made by slush molding

processes. ¶ [0002]. The free flowing powder composition is “made by milling, micropelletizing, or similar techniques.” ¶ [0015].

Maris fails to teach a nonwoven material. Maris fails to teach an **extruded** film layer. As such, Maris certainly fails to teach a nonwoven film layer adhered to an extruded film layer creating a composite. Williams (a tampon applicator) fails to remedy these deficiencies. Indeed, the Examiner fails to address any of these limitations in the Final Office Action.

### **3. The Examiner improperly attempts to modify Maris.**

In the Advisory Action dated February 27, 2009, the Examiner states, “if the examiner is incorrect regarding (inherency) there is the issue that . . . (one skilled in the art) would reasonably conclude based on Maris’ disclosure alone that MFR’s of greater than 20 would be workable.” For arguments sake, even if correct, the Examiner has failed to show ANY reason to modify Maris in such a manner. “There must be some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness.” KSR Int’l Co. v. Teleflex Inc., 127 S. Ct. 1727 (2007) (quoting In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)).

Appellants have described and claimed a composite with a film layer that contains an SIS copolymer with an MFR of less than 20 g/10 min. and a compatibilizer including an SBS copolymer with a melt flow rate of about 20 g/10 min. or more. The SIS and SBS are present in the blended composition in a ratio of from about 1.5:1 to about 2.5:1. As noted throughout the specification, while unsaturated block polymers have been frequently used in adhesive-type applications, the use of such polymers has presented significant manufacturing challenges in extrusion of film and filaments. The

stability of the unsaturated block copolymers over the extended period of time required to extrude film and filaments is not predictable and often results in severe manufacturing disturbances. In Applicants' claimed ratios of SIS to SBS, a relatively flat viscosity line<sup>7</sup> was discovered, which is indicative of thermal stability in the extrusion process. The inventors discovered that the blended SIS and SBS polymer resins demonstrated a relatively constant viscosity, and exhibited an increased ability to withstand degradation in the extrusion process as the ratio of blended styrenic isoprene to styrenic butadiene approached the claimed ratio.

Thus, the Examiner has failed to point to any type of motivation to one skilled in the art to modify Maris in such a manner. Clearly, the Examiner's only incentive or motivation for modifying Maris in this manner results from using Appellant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art, which is improper under 35 U.S.C. § 103. It is improper to use a patent applicant's own specification to provide the only suggestion for modifying the prior art. The Federal Circuit has repeatedly warned against using the Applicant's disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. See Grain Processing Corp. v. American Maize-Products, 5 U.S.P.Q.2d 1788 (Fed. Cir. 1988).

#### **4. The Examiner improperly combines Maris with Williams.**

In the Advisory Action dated February 27, 2009, the Examiner states, "if the examiner is incorrect about this also (i.e. the modification of Maris argued above) there is motivation to use the block copolymer of (Williams)."<sup>7</sup> Appellants respectfully

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<sup>7</sup> See, for example, Fig. 3.

disagree. Williams is directed to “a soft, flexible tampon applicator barrel to provide comfort and ease of insertion into a vagina.”

Thus, the Examiner purports to combine a free flowing powder composition (Maris) with a tampon applicator (Williams) in an attempt to yield Appellants’ claimed invention of a nonwoven composite. Other than a simple statement that “there is motivation” (Advisory Action), the Examiner has not pointed out **ANY** reason to modify these references in this manner to yield Appellants’ claims, let alone, “some articulated reasoning with some rational underpinning to support the legal conclusion of obviousness” KSR Int’l Co. v. Teleflex Inc., 127 S. Ct. 1727 (2007) (quoting In re Kahn, 441 F.3d 977, 988 (Fed. Cir. 2006)).

The U.S. Supreme Court recently reaffirmed that “[a] factfinder should be aware, of course, of the distortion caused by hindsight bias and must be cautious of argument reliant upon ex post reasoning.” KSR Int’l Co. v. Teleflex Inc., 127 S. Ct. 1727. See also, Graham v. John Deere Co., 383 U.S. at 36. Only with Applicants’ specification could the structure of claim 33 be attained, and any attempt to arrive at the structure of claim 33 through study of the cited references is only reachable from improper hindsight analysis after viewing Applicants’ specification. It is improper to use a patent applicant’s own specification to provide the only suggestion for modifying the prior art. The Federal Circuit has repeatedly warned against using the Applicant’s disclosure as a blueprint to reconstruct the claimed invention out of isolated teachings in the prior art. See Grain Processing Corp. v. American Maize-Products, 5 U.S.P.Q.2d 1788 (Fed. Cir. 1988).

**B. Dependent claim 37 is patentable over Maris in view of Williams.**

Claim 37 adds the limitation that the SBS has a melt flow rate of about 30 g/10 min or more. This limitation further defines over Maris and Williams for the reasoning noted above with respect to independent claim 33 and the limitation of a melt flow rate of about 20 g/10 min or more.

**C. Dependent claim 38 is patentable over Maris in view of Williams.**

Claim 38 adds the limitation that the SBS has a melt flow rate of about 40 g/10 min or more. This limitation further defines over Maris and Williams for the reasoning noted above with respect to independent claim 33 and the limitation of a melt flow rate of about 20 g/10 min or more.

**D. Dependent claim 46 is patentable over Maris in view of Williams.**

Claim 46 adds the limitation that the compatibilizer has a styrene content by weight of at least 40%. Appellants respectfully submit that neither Maris nor Williams teach such a limitation.

**E. Dependent claims 52 and 53 are patentable over Maris in view of Williams.**

Claim 52 adds the limitation that the blended composition further comprises a polyolefinic polymer and the ratio of SIS and compatibilizer to polyolefinic polymer is from about 20:80 to about 40:60. Claim 53 adds the limitation that the blended composition further comprises a polyolefinic polymer and the ratio of SIS and compatibilizer to polyolefinic polymer is from about 95:5 to about 80:20. Neither Maris nor Williams disclose or fairly suggest such limitations.

In conclusion, Appellants request favorable action and allowance of the presently pending claims.

Respectfully requested,

DORITY & MANNING, P.A.

A handwritten signature in cursive script, appearing to read "Ryan P. Harris", is written over a horizontal line.

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## 8. CLAIMS APPENDIX

1-32. (Cancelled)

33. (Rejected) A nonwoven composite, comprising:

a non-woven material;

an extruded film layer adhered to said non-woven material, said film layer

prepared from a blended composition comprising

a) an unsaturated styrene-isoprene-styrene block copolymer having a melt flow rate of less than 20 g/10 min.,

b) a compatibilizer including a styrene-butadiene-styrene block copolymer, wherein said compatibilizer has a melt flow rate of about 20 g/10 min. or more; and

wherein said styrene-isoprene-styrene and styrene-butadiene-styrene block copolymers are present in said blended composition in a ratio of from about 1.5:1 to about 2.5:1.

34-36. (Cancelled)

37. (Rejected) The composite of claim 33, wherein said compatibilizer has a melt flow rate of about 30 g/10 min. or more.

38. (Rejected) The composite of claim 33, wherein said compatibilizer has a melt flow rate of about 40 g/10 min. or more.

39. (Rejected) The composite of claim 33 wherein said compatibilizer has a melt flow rate of from about 20 g/10 min. to about 50 g/10 min.

40. (Rejected) The composite of claim 33, wherein said unsaturated styrene-isoprene-styrene block copolymer and said compatibilizer are present in a ratio from about 95:5 to about 80:20.

41. (Cancelled)
42. (Rejected) The composite of claim 33, wherein said styrene-isoprene-styrene and styrene-butadiene-styrene are present in said blended composition in a ratio of about 2:1.
43. (Rejected) The composite of claim 33, wherein said compatibilizer has a styrene content by weight of at least about ten percent.
44. (Rejected) The composite of claim 33, wherein said compatibilizer has a styrene content by weight of at least about twenty percent.
45. (Rejected) The composite of claim 33, wherein said compatibilizer has a styrene content by weight of at least about thirty percent.
46. (Rejected) The composite of claim 33, wherein said compatibilizer has a styrene content by weight of at least forty percent.
47. (Rejected) The composite of claim 33, wherein said nonwoven material comprises a necked, spunbond material.
48. (Rejected) The composite of claim 33, wherein said nonwoven material comprises a corrugated, spunbond material.
49. (Rejected) The composite of claim 33, wherein said nonwoven material comprises a meltblown material.
50. (Rejected) The composite of claim 33, wherein said composite has a first cycle hysteresis value of less than about 70 percent.
51. (Rejected) The composite of claim 33, wherein said blended composition further comprises a polyolefinic polymer.

52. (Rejected) The composite of claim 51, wherein said unsaturated styrene-isoprene-styrene block copolymer and said compatibilizer are present with said polyolefinic polymer in a ratio from about 20:80 to about 40:60 unsaturated styrene-isoprene-styrene block copolymer and compatibilizer to polyolefinic polymer.

53. (Rejected) The composite of claim 51 wherein said unsaturated styrene-isoprene-styrene block copolymer and said compatibilizer are present with said polyolefinic polymer in a ratio from about 95:5 to about 80:20 unsaturated styrene-isoprene-styrene block copolymer and compatibilizer to polyolefinic polymer.

9. **EVIDENCE APPENDIX**

None

**10. RELATED PROCEEDINGS APPENDIX**

None